CLAIMS

1. A communications system, the system comprising:
a plurality of nodes, each node having:
receiving means for receiving a signal transmitted by wireless transmitting means;
transmitting means for wireless transmission of a signal; and,
means for determining if a signal received by said node includes information for another node and causing a signal including said information to be transmitted by said transmitting means to another node if said received signal includes information for another node;
each node having a substantially unidirectional point-to-point wireless transmission link with at least one other node such that each node can transmit a signal to at least one other node, at least some of the nodes having plural substantially unidirectional point-to-point wireless transmission links, each link between respective pairs of nodes being associated with a distinct time slot, the nodes being linked so as to form transmission path loops thereby to provide plural choices of path for the transmission of a signal between at least some of the nodes, each loop consisting of an even number of links.

2. A system according to claim 1, wherein the allocation of time slots to the links can be varied such that a link may selectively be associated with more than one time slot.

3. A system according to claim 1, wherein each node has a direct line-of-sight link with at least one other node such that each node can transmit a signal to another node in line-of-sight with said each node.

4. A system according to claim 1, wherein each node comprises means for transmitting a signal including said information to another node if and only if a signal received at said node includes information for another node.

5. A system according to claim 1, wherein each node is stationary.

6. A system according to claim 1, wherein the number of nodes is less than the number of links.

7. A system according to claim 1, wherein each node is arranged to be in a transmission mode for a time period which alternates with a time period for a reception mode.

8. A system according to claim 1, wherein at least one node is arranged not to transmit to any other node information in a signal received by said at least one node when that information is addressed to said at least one node.

9. A system according to claim 8, wherein each node is arranged not to transmit to any other node information in a signal received by said at least one node when that information is addressed to said at least one node.

10. A system according to claim 1, wherein each node has addressing means for adding to information in a received signal the address of a node to which a signal including said information is to be routed when said information is for another node.

11. A system according to claim 10, wherein the addressing means includes means for determining the route of

information through the system and adding an appropriate address to the information accordingly.

12. A system according to claim 1, further comprising a central system controller for determining the route of information through the system.

13. A system according to claim 1, wherein at least one node has means for determining if a received signal includes information for said at least one node and processing means for processing information in a signal addressed to said at least one node.

14. A system according to claim 1, wherein the transmitting means of the nodes are arranged to transmit signals at frequencies greater than about 1 GHz.

15. A system according to claim 1, wherein the link between two nodes is arranged to use simultaneously two or more frequency channels.

16. A system according to claim 1, wherein said receiving and transmitting means are arranged to transmit and detect circularly polarised radiation.

17. A system according to claim 1, wherein the transmitting means includes a highly directional transmitter antenna.

18. A system according to claim 1, wherein the receiving means includes a highly directional receiver antenna.

19. A system according to claim 1, wherein each node is substantially identical.

20. A system according to claim 1, wherein the system is connected to a conventional trunk network for providing access to other networks.

21. A system according to claim 20, comprising a further node connected by a data connection to one of the nodes of the system and arranged to transfer a signal to or receive a signal from the trunk network or both.

22. A system according to claim 1, wherein a data storage server is connected to or provided at a node.

23. A system according to claim 1, wherein at least one link of a node is arranged to use a first transmission frequency and at least one other link of said node is arranged to use a second transmission frequency.

24. A system according to claim 1, wherein some of the nodes are allocated to subscribers and some of the nodes are not allocated to subscribers, at least some of said non-allocated nodes being solely for carrying information traffic between subscriber nodes.

25. A method of communications, the method comprising the steps of:

(A) transmitting a signal from one node to another node along a substantially unidirectional point-to-point wireless transmission link between said nodes;

(B) receiving said signal at said other node;

(C) determining in said other node if the signal received by said other node includes information for a further node and transmitting a signal including said information from said other node to a further node along a substantially unidirectional point-to-point wireless

transmission link between said nodes if said signal includes information for a further node; and,

(D) repeating steps (A) to (C) until said signal reaches its destination node,

wherein for each node that has plural links, each link to another node is associated with a distinct time slot, the nodes being linked so as to form transmission path loops thereby to provide plural choices of path for the transmission of a signal between at least some of the nodes, each loop consisting of an even number of links.

26. A method according to claim 25, wherein each transmission step on a link of said one node occurs during a distinct time slot and each receiving step on a link of said other node occurs during a distinct time slot.

27. A method according to claim 26, comprising the step of varying the allocation of time slots to the links such that a link is selectively associated with more than one time slot.

28. A method according to claim 25, wherein each node adds to information in a received signal the address of a node to which a signal including said information is to be routed when said information is for another node.

29. A method according to claim 25, wherein each node has addressing means, the addressing means determining the route of the information through the system and adding an appropriate address to the information accordingly.

30. A method according to claim 25, wherein a central system controller determines the route of information through the system.

31. A method according to claim 25, comprising the step of each node transmitting a signal including said information to another node if and only if a signal received at said node includes information for another node.

32. A method according to claim 25, including the steps of determining in at least one node if a received signal includes information for said at least one node and processing the information in a signal addressed to said at least one node.

33. A method according to claim 25, wherein the signals are transmitted at frequencies greater than about 1 GHz.

34. A method according to claim 25, wherein there are at least two possible paths for transfer of data between a source node and a destination node, and comprising the step of transmitting a copy of said data on each of said at least two paths.

35. A method according to claim 25, wherein there are at least two possible paths for transfer of data between a source node and a destination node, and comprising the steps of transmitting from the source node a part only of said data on each of said at least two paths and reconstructing the data from said transmitted parts of said data in the destination node.

36. A telecommunications switching device, comprising a communications system according to claim 1.